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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Chung-Shih Tang

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SONNENSCHN NATH & ROSENTHAL LLP

P.O. BOX 061080

WACKER DRIVE STATION, SEARS TOWER

CHICAGO, IL 60606-1080

EXAMINER

HAYES, KRISTEN C

ART UNIT

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/821,806	Applicant(s) TANG ET AL.	
	Examiner Kristen C. Hayes	Art Unit 3643	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 May 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14, 20-26, 29 and 30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14, 20-26, 29-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

Claim Objections

1. Claim 24 includes the limitation of "at least a portion of the plant material is contacted by the saline water". This limitation is redundant, as it has been previously recited in claim 1.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 20-23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

4. Claim 20 claims growth medium with a plant, plant part or seed. It is not known if this plant is in addition to or the same as the plant of claim 1.

5. Claim 23 recites the limitation "the growth medium package" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1-6, 10-14, 24-26 and 29-30 rejected under 35 U.S.C. 103(a) as being unpatentable over Murray US 4,888,912 (previously cited).

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8. Regarding claim 1, Murray discloses a plant cultivation system comprising a plant (Murray, Figure 1) support comprising a flexible buoyant portion (10) and a plant (6) in contact with the plant support (Murray, column 2: lines 41-42), wherein the plant support is buoyant in the saline water (Murray, column 1: line 13) and wherein at least one portion of the plant contacts the saline water (Murray, column 2: lines 53-55). Not disclosed is the plant being salt-tolerant. However, it would have been obvious to one of ordinary skill in the art at the time of the invention to cultivate a salt-tolerant plant with the plant support of the invention, depending on the plant preference of the user.
9. Regarding claim 2, Murray further discloses the saline water being seawater (Murray, column 1: line 13).
10. Regarding claim 3, Murray further discloses the saline water being in the open ocean (Murray, column 1: line 13).
11. Regarding claim 4, Murray further discloses the saline water comprising phosphorous, nitrogen and potassium (in that these elements are inherent in ocean water). Murray also recognizes that lake waters contain nitrates, phosphates and organic pollutants (Murray, column 1: lines 22-24, lines 49-57). One of ordinary skill in the art would recognize that it is possible to have the same contaminants in ocean water and lake water.
12. Regarding claim 5, Murray discloses the device of claim 1 but does not disclose a metal ion contaminant in the sea water. However, the examiner takes official notice that metal ion contaminants exist in ocean water and that planting cultivation systems similar to device of Murray are used in metal ion contaminated sea water. It would have been obvious to one of ordinary skill in the art at the time of the invention for the saline water to contain metal ion contaminants as to use the plants of the device to filter and clean the water.

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13. Regarding claim 6, Murray further discloses the plant support comprising a sheet material (10) in contact with a buoyant edge or frame (12).

14. Regarding claim 10, Murray further discloses the sheet being capable of being suspended at or near a surface of a body of saline water and wherein at least one buoyant support member is in contact with the sheet (in that the sheet is a buoyant support).

15. Regarding claim 11, Murray further discloses the at least one buoyant support member forms a supporting structure for the cultivation system (Murray, Figure 1).

16. Regarding claims 12 and 13, Murray further discloses the buoyant support member and sheet comprising plastic (Murray, column 2: line 48).

17. Regarding claim 14, Murray further discloses a space for growth of a terrestrial plant is present in a region between two buoyant support members (12).

18. Regarding claim 24, Murray further discloses the salt-tolerant terrestrial plant comprises plant material, wherein at least a portion of the plant material is contacted by the saline water (Murray, column 2: lines 53-55), and further wherein at least one plant is grown from the plant material while the cultivation system is afloat in the saline water (Murray, column 4: lines 53-56).

19. Regarding claim 25, Murray further discloses the plant material being a whole plant (6).

20. Regarding claim 26, Murray further discloses the plant material contacting the saline water by irrigation and direct contact (Murray, column 2: lines 53-55).

21. Regarding claim 29, Murray discloses the device of claim 1 but does not disclose the plant being any of the claimed species, i.e. *Salicornia*. As per applicant's admission on in ¶004, *Salicornia* is a well known salt-tolerant plant. It would have been obvious to one of ordinary skill in the art at the time of the invention for the plant to be any of the claimed species including *Salicornia*, depending on the plant preference of the user.

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22. Regarding claim 30, Murray further discloses the plant being a cultivated crop plant (in that the plants are cultivated and harvested)(Murray, column 4: lines 53-56).

23. Claims 1, 7-9 and 20-23 rejected under 35 U.S.C. 103(a) as being unpatentable over Fischer US 2,175,113.

24. Regarding claim 1, Fischer discloses a plant cultivation system comprising a plant (16) support comprising a flexible buoyant portion (11 or 12 and 13) and a plant (16) in contact with the plant support (Fischer, Figures 2-5), wherein the plant support is buoyant (Fischer, column 1, line 16) in water and wherein at least one portion of the plant contacts the water (Fischer, column 1: lines 31-32). Not disclosed is the water being salt water or the plant being salt-tolerant. However, it would have been obvious to one of ordinary skill in the art at the time of the invention to use a salt-tolerant plant in salt water with the plant cultivations system of Fischer, as the salt water is more dense than freshwater thereby would allow the device of Fischer to float easier and to cultivate a salt-tolerant plant with the plant support of the invention, depending on the plant preference of the user.

25. Regarding claim 7, Fischer further discloses the plant support comprising a growth medium (Fischer, column 2: line 30).

26. Regarding claim 8, Fischer further discloses the growth medium is at least partially contained in housing (in that the growth medium being on film (17) would be contained by the walls of the perforations formed in the buoyant portion).

27. Regarding claim 9, Fisher further discloses the buoyant portion being the housing (see claim 8).

28. Regarding claim 20, Fischer further discloses at least one growth medium (Fischer column 2: line 30) wherein the growth medium comprises at least plant (16) (as best understood) and at least one buoyant support member (11 or 12 and 13) surrounding the

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growth medium (see claim 8). Not disclosed is the plant being salt-tolerant. However, it would have been obvious to one of ordinary skill in the art at the time of the invention to cultivate a salt-tolerant plant with the plant support of the invention, depending on the plant preference of the user.

29. Regarding claim 21, Fischer further discloses the growth medium comprising soil (Fischer, column 2: line 30).

30. Regarding claim 22, Fischer further discloses the growth medium being contained in housing (combination of 17-19) comprised of netting (Fischer, column 2: line 15).

31. Regarding claim 23, Fischer further discloses an evaporation protective layer being provided at a surface above the growth medium package (in that the surface of (11) or (12) is above and partially encloses the growth medium) *to inhibit contact of the growth medium with air.*

Response to Arguments

32. Applicant's arguments have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kristen C. Hayes whose telephone number is 571-270-3093. The examiner can normally be reached on Monday-Thursday, 7:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Poon can be reached on (571)272-6891. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

KCH
12 September 2008

/Michael R Mansen/
Supervisory Patent Examiner, Art Unit 3644